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Approved For Release 2003/12/04 : CIA-RDP78B05171A000100010180-9

NPIC/TDS-151/67

R&D

28 August 1967

MEMORANDUM FOR: Assistant for Planning and Management

SUBJECT: Request for Exchange of R&D Projects for FY 1968

1. According to recent instructions received from the Assistant for Planning and Management, NPIC, The Technical Development Staff has been advised that several projects have been deferred from the FY 68 R&D program in response to an R&D budget cut of [] by OPPB (from [])

By this action, project number NP-P-1-11017 for a Precise Measurement Study was removed from the FY 1968 R&D Budget. This memorandum proposes the reinstatement of the precise measurement project, and instead, defer project number NP-R-7-10077, Cut Film Processor. The estimated cost [] for each of these projects will balance out.

2. All of the background work involved in the development of the High Precision Stereo Comparator has identified important factors in the Precision Measurement Category:

a. Significant improvement over the current in-house precise measuring equipment would be complex and costly.

b. There is no precise measurement equipment currently in existence which was designed, either by intent or coincidence, for effective photogrammetric intelligence exploitation of the high performance imagery typically furnished to this Center.

c. Accuracy of the acquisition system parameters is continuously being improved, including the precision of the camera platen and lens characteristics, the stellar camera performance, the accuracy of the ephemeral data, the increase in recorded data taken simultaneously with exposure, etc.

d. We can prove that the currently available comparators are not accurate enough to fully utilize the improved acquisition system performance and associated data recordings, but we cannot prove the practical limits of accuracy imposed by acquisition and exploitation characteristics and circumstances which are not recoverable.

Declass Review by
NIMA/DOD

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3. In spite of the fact that the original performance specifications for the High Precision Stereo Comparator had to be compiled without the benefit of these accuracy limits, it is probable that issues of cost/performance compromises will be arising throughout the development cycle for this equipment. At the present time it appears that it will be about March 1968 before the feasibility/design phase of the comparator is completed. It will probably be June 1968 before fabrication is begun -- which will take about two years to complete. If this development is true to form we will be able to beneficially utilize any authoritative basis for relieving the performance specifications up to January 1970. If we can prove that this performance relief is properly correlated to the logical limits of accuracy imposed by the unknown characteristics of the acquisition/mensuration process, it will very likely result in cost savings.

4. The High Precision Stereo Comparator does not represent the ultimate device of its kind. Its design is based on what we now know of existing and programmed improvements in acquisition systems of the near future. It would be inexcusable for us to be faced with another requirement for updating this equipment, say in 1970, and again find ourselves in the predicament of not knowing the magnitude of the practical accuracy limits imposed by the undefined characteristics at that moment in time.

5. A well conceived Precise Measurement Study will provide the needed information in time for refinement of the performance specifications for the High Precision Stereo Comparator development and will establish the next performance plateau for updating this development in 1970 -- if we get started now. Accordingly, we request that the Precise Measurement Study be reinstated at the estimated cost of [] and that the Cut Film Processor be deferred in order to balance the FY 1968 budget.

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/s/



Colonel, USAF

Assistant for Technical Development, NPIC

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NPIC/TSSG/DED-1165-68
5 April 1968

MEMORANDUM FOR: Chief, Development Engineering Division, NPIC/TSSG
SUBJECT : Illumination Required by the Human Eye

25X1 1. The recently distributed "Human Engineering Design Guide by the [] has proved quite valuable as a reference in evaluating the illumination system for the High Precision Stereo Comparator.

25X1 2. The [] specifications state that the Stereo Comparator will provide 0.2 stilbs at the operators eye under most conditions. In extreme cases such as looking at a step wedge and attempting to differentiate between 2.9 and 3.0 density film at 200X magnification, the illumination level will automatically be reduced to 0.026 stilbs to prevent damage to the film. Neither previously available reference material nor the past experience of the DED personnel could provide information to the effect that these illumination levels were adequate.

3. While reviewing the new [] Guide I found in Section 4 that 15 foot lamberts is adequate illumination level at the eye for young interpreters and 25 foot Lamberts adequate for the general interpretation population. 25X1

4. General Physics and Optics Books indicate that 1 stilb = 2919 foot Lamberts. Therefore, 0.2 stilbs is equal to 584 foot Lamberts and 0.026 stilbs = 90 foot Lamberts. Thus even at the worst condition the interpreter will have three to four times as much light as is required (90 f.l. as opposed to 15 or 25 f.l.).

5. This information then provided what I needed in setting up an acceptable specification with the Contractor.

[]
TSSG/DED 25X1

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25X1 NPIC/TSSG/DED/R&DB II: [] (8 Apr 68)

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NPIC/TDS/D-925-67
7 July 1967

MEMORANDUM FOR: Chief, Procurement Division. OL
ATTENTION: West Coast Procurement Office
SUBJECT: Optical Subcontract for the High Precision Stereo Comparator
REFERENCE: Contract [REDACTED]

1. NPIC/TDS has received and reviewed copies of the proposals submitted in response to [REDACTED] request for proposals in regard to an optical subcontract for the High Precision Stereo Comparator. [REDACTED] has also provided NPIC/TDS with the information and comments obtained during the optical survey visit to the leading contenders for the optical subcontract.

2. [REDACTED] has since contacted and requested additional information from the two leading contenders for the subcontract. [REDACTED]

3. [REDACTED] feels that [REDACTED] is clearly the best qualified organization to accomplish the design of the optical system.

4. NPIC/TDS concurs with [REDACTED] selection and requests that OL authorize [REDACTED] to proceed with contract negotiations with [REDACTED] for the optical subcontract package.

/s/ [REDACTED]
Colonel, USAF

Assistant for Technical Development, NPIC

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NPIC/TDS/DS: [REDACTED] (7 July 1967)

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NPIC/TDS/D-902-67

22 June 1967

MEMORANDUM FOR: Chief, Development Staff, TD

SUBJECT : Subcontractor for Optics Portion of the High Precision Stereo Comparator

25X1 1. As you are aware, [] has sent forward a first choice recommendation
25X1 of [] was not happy with the prospect of a foreign contractor.

2. I agreed to review the proposals of the top three bidders and make a recommendation based upon that evaluation.

25X1 3. The review of the "proposals" does little if anything to clarify the
situation since they are not proposals in the sense we use the word. Only
[] offered a good technical proposal. [] visited 25X1
the top bidders and their evaluation is based more on this than on the "pro-
posal." Therefore, their Visit Summary, written by [] is somewhat 25X1
enlightening.

25X1 4. [] sent their RFQ to 104 concerns 61 foreign and 43 domestic. Only
25X1 8 firms bid. Of these 8, only 6 showed any reasonable promise. These were in
order of [] evaluation.

Evaluation:

25X1 A. []
B. []
C. []
D. []
E. []
F. []

25X1 5. Of these 6, only three would appear to be able to handle the job and
25X1 to manufacture the equipment, i.e., provide anything but the design work. This
25X1 narrows the group down to the first three. A close review of the []
"proposals" and summary reports indicates that their proposal was written
by [] who is their Optical Consultant (an excellent one, by the way). With
the exception of [] who would be a real asset, [] has little
to offer--this leaves only []

6. A close evaluation of the available information would indicate the following facts:

[redacted]

A. Advantages

- (1) A large company the size of [redacted] with equal or superior capabilities. 25X1
- (2) Highly recommended by [redacted] 25X1
- (3) Considerable design and production experience in Zoom Optics. [redacted] says their Zoom designs are among the best in the world. 25X1
- (4) Considerable design and production experience in first order stereo plotters. They understand photogrammetry, reticals, etc.
- (5) [redacted] fixed price and probably would be cheaper for fabrication then [redacted] 25X1
- (6) First choice of our contractor. He rated them extremely high. See attached sheet.
- (7) Early delivery -- this is critical to [redacted] and to us (because of costs). 25X1

B. Disadvantages

- (1) Foreign firm, communications problems and metric/English measurement problems. (By the way, [redacted] 25X1
- (2) Poorer contractual position.
- (3) Poor proposal but within what [redacted] asked for (see their RFQ). We would have to see a good work statement prior to contract. 25X1
- (4) Difficult to monitor (foreign travel, etc.).

NOTE: We have been assured by OL that there is no security or buy American problem; in fact, we will pay in [redacted] already over there--according 25X1

[redacted]

25X1 [redacted]

A. Advantages

- (1) Competent American firm with [redacted] well known to us -- he has system clearances and will understand our problem. 25X1
- (2) No monitoring or communications problems; also, we have some leverage if we need it.
- (3) Capable small firm that could build the system once designed.

B. Disadvantages

- (1) Higher cost [redacted] CPFF-not fixed price--(will consider CPAF). 25X1
- (2) [redacted] had trouble getting along with them on their first visit-- see Visit Summary. 25X1
- (3) Little or no experience in zoom system (to best of my knowledge).
- (4) Probably higher cost to fabricate than [redacted] 25X1
- (5) Second choice of [redacted] - remember the "I told you so" problem that can result. 25X1
- (6) Poor proposal-lacks facts.
- (7) Long delivery time.

7. After reviewing the reports and proposals I had Bill call [redacted] to get answers on some technical questions. Their answers were all satisfactory. They agreed they do not have an acceptable "proposal" in the contractual sense; this is one reason they need to go back and talk with [redacted] They have also gone back to [redacted] to see if they could get a better proposal, better delivery schedule and better rapport. 25X1

8. After much soul searching, I would make the following recommendation, that we give [redacted] permission to revisit [redacted] (2 people maximum) and see if they can come back with an acceptable work statement--not a contract. At the same time, they should recontact [redacted] (as they have done) and not close that door. If they still think [redacted] is the best subcontractor, I think we should permit them to go ahead to a contract. I can't come up with strong enough reasons not to. 25X1

[redacted] 25X1
Chief, ESB/DS